MUSCULAR ATROPHY SECONDARY TO JOINT DISEASE.

Report is made in the "Centralblatt f. klinische Medicin" of the experiments of Raymond made on dogs for the purpose of ascertaining the pathogenesis of muscular atrophy following traumatic arthritis. He had observed, after injuries to joints, that the limb on the side of the lesion frequently underwent various nervous disturbances, that the function became weak, with an increase in the skin and tendon reflexes, and fibrillary contractions of the muscles, faradic irritability, and finally an alteration in sensation, followed by atrophy in all the muscles of the injured side. From his various experiments the author was satisfied that the accession of the muscular atrophy secondary to the joint lesion was of reflex occurrence. Vulpian's theory was that the irritation of the ends of the articular nerves told back on the spinal centres and thence upon the centres of the origin of the muscular nerves. This would account for the rapid development of the atrophy, the absence of the reaction of degeneration, and the simple atrophy found in the muscles.

MM. S. Duplay and M. Cazin, "British Medical Journal," January 24, 1891, recount their experiments on dogs and rabbits. The inflammation in their cases was set up by injecting nitrate of silver or tincture of iodine into the joint, or by the actual cautery.

The muscles when weighed always showed a loss, in one or two instances as much as forty per cent., usually in proportion to the duration of life (four to fifty-one days). In one of the experiments the inflammation was set up by wrenching the joint, and the animal was allowed to live for a year. Histological examination in this case showed a simple atrophy in the muscles, with all the nerves healthy except the articular branches. Here there was a diminished number of nerve fibres, a few of which were degenerate, the axis cylinders having disappeared. The perineurium showed inflammatory change, but the endoneurium was unaffected. In another experiment, however, the muscular branches were also diseased. The roots of the nerves were healthy, and no change was found in the spinal cord. The microscopic examination revealed nothing abnormal except the lesion in the articular nerves. The predominance of the change in the extensor muscles may be explained by the relation of the articular nerves to the nerves supplying these muscles. This cannot be said to take place without the intervention of the cord, and, indeed, a connection between the centres of the articular and muscular nerves in the cord may be assumed. From the work of the various authors the following conclusions may be drawn: (1) the atrophy of the muscle fibres is a simple atrophy; and (2) this atrophy can only be explained by a simple reflex, set up by the irritation of the terminal filaments of the articular nerves. The pathogeny clearly pointed out by Vulpian has thus been minutely demonstrated by the facts of morbid anatomy.

An exhaustive account of the work of Duplay and Cazin is found in the "Archives Générales de Médecine," for January, 1891. B. M.

MECHANISM OF CHEYNE-STOKES' RESPIRATION.

The "Archives de physiologie normale et pathologique," January, 1891, contain Dr. Wertheimer's exposition of this subject, of which the following are his conclusions:

I. Among effects produced by exciting the central termination of the pneumogastric must be included the different forms of interrupted or periodic breathing and the phenomenon of Cheyne-Stokes' respiration.

II. The results obtained through experiment were almost entirely due to chemical agents. At the same time, in an animal drugged by chloral the nerve may be excited by an induced current of electricity of constant intensity, with the result of adding to the persistent inhibitory effect successive variations of activity in the respiratory centres.

III. The experiments show that Cheyne-Stokes' respiration may be due to an incomplete inhibition of respiratory centres. L. F. B.

THE PATHOLOGY OF NIGHT.

The "Annales Médico-Psychologiques" for November–December, 1890, contain Dr. Cullerre's notice of Charles Féré's recent contribution to this subject, in the form of a view of nocturnal paralysis, which Weir Mitchell, Ormerod, Sinkler, Saundby and others have already written about. The influence of night upon living beings—more easily recognized than explained—has received attention from numerous observers. Combustion is lessened during the hours of darkness, respiration is less frequent, the pulse is slower, and the quantity of exhaled carbonic acid diminished. Light gives to the powers of general nutrition greater activity, even among the blind; and colored light possesses stimulating properties that diminish along the